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**ASSIGNMENT BOOKLET**MAT1038 Applied Mathematics 10  
Module 2**FOR STUDENT USE ONLY**

Date Assignment Submitted:

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Time Spent on Assignment:

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(If label is missing or incorrect)

Student File Number:

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Module Number: 

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Assigned

Teacher: 

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Assignment

Grading: 

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Graded by: 

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Date Assignment Received:

**Student's Questions  
and Comments****Apply Module Label Here****Name****Address****Postal Code***Please verify that preprinted label is for  
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**Teacher**

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- Are all the assignments completed? If not, explain why.
- Has your work been reread to ensure accuracy in spelling and details?
- Is the booklet cover filled out and the correct module label attached?

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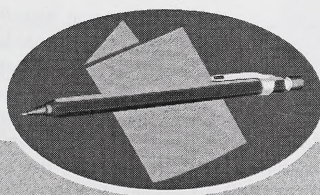


# **Applied Mathematics 10**

## **Module 2**

### **Number Patterns in Tables**

#### **ASSIGNMENT BOOKLET**



## FOR TEACHER'S USE ONLY

### Summary

Total Possible Marks	Your Mark
60	

### Teacher's Comments

Applied Mathematics 10  
Module 2: Number Patterns in Tables  
Assignment Booklet  
Learning Technologies Branch  
ISBN 0-7741-1638-2

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	
General Public	
Other	



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## ASSIGNMENT BOOKLET

### APPLIED MATHEMATICS 10 – MODULE 2: NUMBER PATTERNS IN TABLES

Your mark on this module will be determined by how well you do on the assignment in this booklet and the module project in the Project Booklet.

The value of each part of the module assignment is stated in the left margin of this booklet. The total value of the module assignment is 60 marks.

60

### Module Assignment

**Read all parts of this booklet carefully and record your answers in the appropriate place. Work slowly and carefully. If you are having difficulties, go back and review the appropriate activity in the Student Module Booklet.**

**Be sure to complete all parts of the assignment and proofread your responses before you submit this assignment to your teacher for grading.**

1. Use following spreadsheet to answer questions 1.a. to 1.e.

	A	B	C	D	E
1	Year	Cost of Item Jan. 1	Inflation Rate	Price Increase	Cost of Item Dec. 31
2	1991	\$1,200.00	5.61%	\$67.32	\$1,267.32
3	1992	\$1,267.32	4.36%		
4	1993		3.88%		

- a. Write, in words, how the value in cell D2 is calculated; then give the formula.

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- b. Determine the price increase in 1992.

2

①

- c. What do you need to know to determine the cost of an item on January 1, 1993?

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①

- d. Explain and state the name for this type of table.

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②

- e. Complete the table given at the beginning of question 2. **Note:** If you are not using a spreadsheet program, do calculations with your calculator running. Do not round values at each calculation.

2. Nelda and Nickolas are participating in a hockey pool.

Nelda's players include K. Tkachuk, C. Chelios, S. Cote, D. Mironov, and M. Recchi.  
Nickolas's players include M. Sundin, J. Roenick, T. Fleury, J. Beranek, and P. Bure.

Use the statistics from the following table to complete the charts in 2.a. and 2.b. **Note:** You may choose to use a spreadsheet program to complete the table. Be sure to include your name, the course name, and module number on any attached pages.

Players	Games Played	Goals	Assists	Penalty Minutes	Plus/Minus	Shooting %
M. Sundin	80	42	61	78	14	13.5
T. Fleury	82	27	51	197	0	9.6
J. Beranek	82	33	39	24	6	11.3
S. Cote	71	4	21	42	-3	3.9
K. Tkachuk	69	40	26	147	9	17.2
P. Bure	82	51	39	48	5	15.5
D. Mironov	77	8	35	119	-7	4.7
J. Roenick	79	24	32	103	9	13.2
C. Chelios	81	3	39	151	-7	1.5
M. Recchi	82	32	42	51	11	14.8



5

- a. Complete the following chart for Nelda's players using the formula  
 $\text{Points} = 2 \times \text{Goals} + \text{Assists} + 0.5 \times \text{Plus/Minus}$ .

**Nelda's Players**

Player	Goals	Assists	Plus/Minus	Points
Total Points				

5

- b. Complete the following chart for Nickolas's players using the formula  
 $\text{Points} = 2 \times \text{Goals} + \text{Assists} + 0.5 \times \text{Plus/Minus}$ .

**Nickolas's Players**

Player	Goals	Assists	Plus/Minus	Points
Total Points				

2

3. What is a ready reckoner? What is its purpose?

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4. A person in a small business has received a \$60 000 loan to expand the building facilities. The following table shows how the bank has scheduled the repayment of the loan. Answer the questions that follow and complete the table.

	A	B	C	D	E
1					
2					
3	Principal	\$60,000.00			
4	Annual Interest Rate	7.25%			
5	Annual Payment	\$8,641.64			
6	Number of Years	10			
7					
8	Payment Number	Opening Balance	Interest Charged	Closing Balance	Total Interest
9	1	\$60,000.00	\$4,350.00	\$55,708.36	\$4,350.00
10	2	\$55,708.36	\$4,038.86	\$51,105.58	\$8,388.86
11	3	\$51,105.58	\$3,705.15	\$46,169.10	\$12,094.01
12	4	\$46,169.10	\$3,347.26	\$40,874.72	\$15,441.27
13	5	\$40,874.72	\$2,963.42	\$35,196.50	\$18,404.69
14	6	\$35,196.50	\$2,551.75	\$29,106.61	\$20,956.43
15	7	\$29,106.61	\$2,110.23	\$22,575.20	\$23,066.66
16	8	\$22,575.20	\$1,636.70	\$15,570.26	\$24,703.37
17	9				
18	10				

①

- a. What is the term of the loan?

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②

- b. Write the formula used to calculate cell C9.

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③

- c. The formula for the closing balance in cell D9 is  $=B9 + C9 - \$B\$5$ . Explain what the formula is doing and why \$ symbols are used in the last part.

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④

- d. Complete the last two rows of the spreadsheet. You may choose to use a computer and spreadsheet program to create a new spreadsheet to answer this question. If you do, also include a formula view of your spreadsheet. Be sure to include your name, the course name, and module number on any attached pages.



5. Computer Store A and Computer Store B are both having sales. Computer Store A reduces all items by 10% of the original price on each of 4 consecutive days. Computer Store B reduces all items by 10% of the previous day's price for the same 4 consecutive days.

6

- a. Make a table showing the price of an item, originally priced at \$195, at each store. You may choose to use a computer and spreadsheet program to create a spreadsheet to answer this question. If you do, also include a formula view of your spreadsheet. Be sure to include your name, the course name, and module number on any attached pages.

1

- b. Which sale is better for you as a consumer?

---

---

1

- c. Which sale gives a better return for the store?

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2

- d. Why is the reduction greater after Day 1 in Store A?

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6. The Madill's take out a \$15 000 loan to complete the basement of their home. The interest rate for the loan is 6.75% over 6 years.

- 5 a. Complete the following table to determine the amount of the annual payment the couple must make. You may use a computer and spreadsheet program to answer this question. Attach the sheet to this page. Be sure to include your name, the course name, and module number on any attached pages.

	A	B	C	D
1	Principal	\$15,000.00		
2	Annual Interest Rate	6.75%		
3	Annual Payment			
4	Number of Years	6		
5	Payment Number	Opening Balance	Interest Charged	Closing Balance
6	1			
7	2			
8	3			
9	4			
10	5			
11	6			

The couple must make an annual payment of \_\_\_\_\_. (Fill in cell B3.)

- 2 b. Suppose the couple missed a payment at the end of the third year. In which cell would you change the formula to show the missed payment? Write the new formula.

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- 3 c. If the amount from question 6.b. were left owing, how much would have to be paid out in a lump sum at the end of 6 years?

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⑥

7. The following table shows incomes and costs of living in India, with figures given in rupees. Using the exchange rate of Can\$1.00 = 29.66 rupees, determine the cost of living in India in Canadian dollars.

**Cost of Living in India (in rupees)**

Income	Housing	Food	Transportation	Utilities	Taxes
11 000	3500	2250	500	900	2000
34 000	8000	4300	2000	1750	9000

**Cost of Living in India (in Canadian dollars)**

Income	Housing	Food	Transportation	Utilities	Taxes

8. Define the following terms.

①

a. term of a loan: \_\_\_\_\_  
\_\_\_\_\_

①

b. recursive table: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

①

c. current cell: \_\_\_\_\_  
\_\_\_\_\_

①

d. markup: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_







